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| 10/777,082 | 02/13/2004 | Takahiro Matsumoto | 396.43509X00 | 4125 |

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| EXAMINER |
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VIJAYAKUMAR, KALLAMBELLA M

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| ART UNIT | PAPER NUMBER |
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1751

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| NOTIFICATION DATE | DELIVERY MODE |
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07/16/2007

ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

officeaction@antonelli.com
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Office Action Summary

| | | |
|-------------------------|------------------|--|
| Application No. | Applicant(s) | |
| 10/777,082 | MATSUMOTO ET AL. | |
| Examiner | Art Unit | |
| Kallambella Vijayakumar | 1751 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
 - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
 - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on ____.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-3 and 5-16 is/are pending in the application.
- 4a) Of the above claim(s) 6-11 is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-3, 5 and 12-16 is/are rejected.
- 7) ☒ Claim(s) 1 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date ____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date ____.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: ____.

Detailed Action

- Acknowledge the response filed with the amendments on 04/25/2007 by the applicants.
- Claim 1 was amended. Claim 4 cancelled. New Claims 12-16 added. Claims 6-11 withdrawn. Claims 1-3 and 5-16 are currently pending with the application.
- Applicant's arguments with respect to claims have been considered, found persuasive, but are moot in view of the new ground(s) of rejection.

Claim Objections

Claim 1 objected to because of the following informalities: There are no major and minor axis for spherical particles. The examiner construes the minor axis = major axis for spherical particles for the purposes of the examination. Appropriate correction is required.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

- (a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.
- (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.
- (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

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1. Claims 1-3, 5, 12, and 16 are rejected under 35 U.S.C. 102(b) as anticipated by Ito et al (WO 02/22757).

The US Patent 6,992,431 issued to Ito et al is being used as the English translation of the WO document in the present rejection.

Ito et al teach the composition of a composite fine particle of ATO (Sb-Sn-Oxide) with a particle diameter of 50 nm coated with a surface shell of 1-nm thick silica (Cl-6, Ex-2). The prior art teaches the outer shell to be resistive/insulative oxides such as silica, titania, alumina and zirconia, and the coated particle to have a particle size of 5-100 nm (Cl-2, Ln 48-58). All the limitations of the instant claims are met.

The reference is anticipatory.

2. Claims 1-3, 5, 12, and 16 are rejected under 35 U.S.C. 102(b) as being anticipated by Jacobson et al (US 5,296,168).

Jacobson et al teaches an electroconductive powder composition containing Sb-Sn-Oxide core particles coated with hydrous metal oxide (Abstract). The particle size of the Sb-Sn-Oxide oxide was not larger than 250 microns, ranged from tens of micron to sub-micron that encompasses a range of 1-nm to 250 microns that meets the limitation of ultrafine powder the claim (Cl-2, Ln 39-68; Cl-3, Ln 62-65). The surface coating comprised oxides of Al, Mg, Ti, Zr and rare-earths. An alumina surface coating with a thickness in terms of wt% in the range of 0.75-3.0 wt% will meet the thickness ratio in claim-5. All the limitations of the instant claims are met.

The reference is anticipatory.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and

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the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

1. Claims 13-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jacobson et al (US 5,296,168).

Jacobson et al teaches an electroconductive powder composition containing Sb-Sn-Oxide core particles coated with hydrous metal oxide (Abstract). The particle size of the Sb-Sn-Oxide oxide was not larger than 250 microns, ranged from tens of micron to sub-micron that encompasses a range of 1-nm to 250 microns that meets the limitation of ultrafine powder the claim (Cl-2, Ln 39-68; Cl-3, Ln 62-65. An alumina surface coating with a thickness in terms of wt% in the range of 0.75-3.0 wt% will meet the thickness ratio in claim-5. The prior art is silent about shape of the particle per claims 13-15.

It would have been obvious to a person of ordinary skilled in the art to substitute the spherical particles of Sb-Sn-O with other shapes including spheroidal/acicular particles as functional equivalents in the composition of Jacobson et al with reasonable expectation of success, because the prior art teaches

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that shape of the particle is not critical and suggestive of such an use (CI-2, Ln 65-68). The major axis or the aspect ratio for an acicular particle will be at least greater than "1", that will lie close to the lower limit of 2 by the applicants and a prima facie case of obviousness exists where the claimed ranges and prior art ranges do not overlap but are close enough that one skilled in the art would have expected them to have the same properties. *Titanium Metals Corp. of America v. Banner*, 778 F.2d 775, 227 USPQ 773 (Fed. Cir. 1985) (Court held as proper a rejection of a claim directed to an alloy of "having 0.8% nickel, 0.3% molybdenum, up to 0.1% iron, balance titanium" as obvious over a reference disclosing alloys of 0.75% nickel, 0.25% molybdenum, balance titanium and 0.94% nickel, 0.31% molybdenum, balance titanium.)

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kallambella Vijayakumar whose telephone number is 571-272-1324. The examiner can normally be reached on 8.30-6.00 Mon-Thu, 8.30-5.00 Alt Fri.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Douglas McGinty can be reached on 571-272-1029. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/KMV/
July 7, 2007.


DOUGLAS MCGINTY
SUPERVISORY PATENT EXAMINER

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